

REMARKS

Claims 4, 7, 8 and 11 are pending, with claim 4 being the sole independent claim. Claim 11 has been amended to depend from claim 4, and claims 9, 10, 12, and 13 have been canceled. Support for the amendments to claim 11 can be found in the application as originally filed, for example, at page 3, lines 10-13. No new matter is added by any of the amendments.

The rejection of claims 4, 7, 9-12 under 35 U.S.C. § 103 (a) over U.S. Patent No. 5,609,821 ("Grimberg") in view of U.S. Patent No. 5,130,053 ("Feasey"), and the rejection of claims 8 and 13 under 35 U.S.C. § 103(a) over Grimberg in view of Feasey and further in view of U.S. Patent No. 4,104,024 ("Vogele"), are each respectfully traversed.

Independent claim 4 is relates to a method for *sterilizing a foodstuff packaging material* comprising passing the packing material through a *dip bath liquid* comprising hydrogen peroxide and from *200 to 500 ppm* of a foodstuff-compatible phosphonic acid.

Grimberg explains in the "Description of Related Art" (or *prior art*) section, that packaging materials can be sterilized either by soaking in a bath comprising hydrogen peroxide or by spraying hydrogen peroxide onto the article. (Column 1, Lines 18-25). The invention of Grimberg relates to a process for disinfecting or sterilizing an article, *e.g.*, a packaging material, by *spraying on* at least one surface of the article an aqueous hydrogen peroxide solution including an organic phosphonic acid (claim 1), such as aminotris(methylene phosphonic acid) (column 3, lines 14-16). Grimberg discloses using the organic phosphonic acid in an amount *below 50 mg/kg* (50 ppm). (Column 4, Lines 56-60). Grimberg also discloses using hydrogen peroxide of *high purity*, *i.e.*, containing no dry residue. (Column 4, Lines 11-15).

A prior art reference must be considered in its entirety, *i.e.*, as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984); MPEP § 2141.02.

The presently claimed method differs from Grimberg in that: (1) the organic phosphonic acid is present in an amount of *200 to 500 ppm*, but also (2) the method comprises passing the packaging material through a *dip bath* liquid. Because the packaging material is passed through the dip bath liquid, the hydrogen peroxide which is in use in the presently claimed method *cannot be of high purity*. In particular, even if the hydrogen peroxide is initially of high purity (*i.e.*, before the first packaging article is passed through it), as soon as some of the packaging material to be sterilized has been passed through the dip bath liquid, the dip bath liquid will no longer be of high purity. As explained at page 4, lines 1-9, of the present application,

The improvement in stability behaviour is not restricted only to hydrogen peroxide which has not yet been used in the process and accordingly has not picked up any contamination from the packaging material. The invention is also useful with hydrogen peroxide which as a result of the process exhibits enrichment of packaging material residues, which leads to heterogeneous decomposition. Such contaminated hydrogen peroxide treated in accordance with the invention behaves substantially more stably even at higher temperatures compared with standard quality hydrogen peroxide.

According to Grimberg, it is possible to use an aqueous hydrogen peroxide solution comprising an organic phosphonic acid as stabilizing agent of spraying liquid for the sterilization of articles, an advantage being to *avoid the fouling of the spraying system* (column 1, lines 56-60), provided that the organic phosphonic acid is used in an *amount below 50 ppm* (column 4, lines 28-30 and Examples 1 and 4) *and* combined with hydrogen peroxide of *high purity* (column 4, lines 11-15 and Examples 1 and 4).

Grimberg does not disclose to the skilled person that it is possible to use said composition, even provided that the amount of stabilizer is increased to at least 200 ppm, *as dip bath liquid* for the sterilization of articles, namely as a solution which is *not of high purity* (impurities are added as soon as some packaging materials to be sterilized are passed through the dip bath liquid). Furthermore, as explained in the present application, it has been found that with

an amount of at least 200 ppm of stabilizer, no solid residues are built up on the scraper rolls. (See Page 4, Lines 14-18). In contrast, Grimberg explains that *to avoid fouling* (residue build-up on the machines in contact with the composition comprising the hydrogen peroxide and the stabilizer), the amount of stabilizer must be kept *below 50 ppm*.

Feasey relates to the stabilization of concentrated hydrogen peroxide solutions which tend to *decompose on storage* (see abstract, lines 1-4), while the presently claimed method relates to the stabilization of hydrogen peroxide solutions in use, specifically in the sterilization of foodstuff packaging material.

As explained in MPEP § 2141.01(a), to rely on a reference under 35 U.S.C. § 103, the reference must be analogous prior art or if in a field different from that of applicant's endeavor, reasonably pertinent because of the matter with which it deals logically would have commended itself to an inventor's attention in considering his or her invention as a whole. Applicants respectfully submit that the Office Action has inappropriately relied on Feasey, which neither is analogous art nor because of the matter with which it deals, logically would have commended itself to Applicants' attention in considering the presently claimed method of sterilizing a foodstuff packaging material.

As explained previously, Feasey discloses the use of *specific phosphonic acids* (column 2, lines 33-48) in an amount from *10 to 5000 ppm*, depending on the purpose of the composition (column 4, lines 40-58). Feasey discloses the use of the hydrogen peroxide solutions as electronic grade solutions (10 to 50 ppm of stabilizer), in chemical reactions such as epoxidations and controlled organic oxidations (50 to 1000 ppm), for the treatment of contact lenses (1000 ppm), and for the treatment of metals such as in metal pickling or polishing solutions (1000 to 5000 ppm).

Contrary to the assertion in the Office Action, Applicants respectfully submit that Example 5 of Feasey does not disclose or suggest that the concentration range of between 50 to 1000 ppm for the phosphonic acid is found to be the most effective. As explained in the previous paragraph, the most

effective concentration of the stabilizer *depends on the purpose* of the composition.

Specifically, Example 5 of Feasey relates to *diluted* hydrogen peroxide solutions (3% w/w) suitable for use in *sterilizing contact lenses*. In Example 5, 50 to 1000 ppm of phosphonic acid is added to the diluted hydrogen peroxide solution. The intended use is thus different from that of the presently claimed method and, furthermore, the disclosed hydrogen peroxide solutions are very diluted ones (only 3% w/w) and are therefore *not compatible with the sterilization of foodstuff packaging material*. Indeed, as explained in Grimberg, the concentration of hydrogen peroxide in the aqueous solution must be in an amount effective to disinfect or sterilize the article to be treated and advantageously ranges between 15 and 70% by weight. (Column 3, Lines 33-38).

Feasey is silent about *methods for the sterilization of foodstuff packaging material*. Feasey is also silent about *foodstuff-compatible* phosphonic acids. Additionally, Feasey does not disclose to the skilled person to select an amount of stabilizer in a range *from 200 to 500 ppm* for the specific use of the presently claimed method, *i.e.*, for the sterilization of foodstuff packaging material.

For at least the above-noted reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 4, 7, and 11 over Grimberg in view of Feasey.

Vogele contains nothing to rectify the above-noted deficiencies of the proposed combination of Grimberg and Feasey. Thus, dependent claims 8 is respectfully submitted to be allowable with its parent claim, without prejudice to its individual merits. Reconsideration and withdrawal of the rejection of claim 8 are accordingly, respectfully requested.

In view of the foregoing amendments and remarks, the application is respectfully submitted to be in condition for allowance, and prompt, favorable action thereon is earnestly solicited.


Application No. 10/804,186
Reply to Office Action
July 8, 2009

If there are any questions regarding this Reply or the application in general, a telephone call to the undersigned at (202) 624-2845 would be appreciated since this should expedite the examination of the application.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #101771.53337US).

Respectfully submitted,

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